

*Asarum*, *Bromus ciliatus* and *Impatiens*, and the largest proportion of *Anemonella*, *Antennaria*, *Arisaema*, *Aster divaricatus*, *Polystichum* and *Adiantum*. With the locust trees grew plants characteristic of the open rather than of the woods; in fact, no forest plants at all were found except one plant of *Aquilegia* and one of *Botrychium virginianum*.

It is evident that the climax forest that will develop if allowed to will differ but slightly from the original forest of the region. This difference will be due to the loss of a few species, especially chestnut and hemlock, and the possible addition of a few new species, such as sour cherry and ailanthus, which will never make a large proportion of the trees. There will also be a greater proportion of black oak and white ash. The vegetation below the trees will show more change, as some introduced plants characteristic of open places are so well established in parts of the forest with shallow soil and somewhat xerophytic conditions that they may be considered a permanent part of the forest. Among such plants are *Potentilla canadensis*, *Poa compressa*, *Oxalis stricta*, *Fragaria virginiana*, *Ambrosia artemisiæfolia* and *Rubus occidentalis*.

## SOME INTRODUCED PLANTS OF UTAH

BY A. O. GARRETT

The following paper is supplementary to one entitled "Some Introduced Plants of Salt Lake County," published in the October, 1919, number of *TORREYA*. In that paper sixty-eight species were enumerated as occurring in Salt Lake County. These, together with those here listed, brings the State catalog up to a total of 102 species.

69. *Asparagus officinalis* L. Garden Asparagus. A common escape along streams and irrigation ditches throughout the State.

70. *Rumex Patientia* L. Patience Dock. In Salt Lake and adjacent counties.

71. *Polygonum Convolvulus* L. Black Bindweed. Throughout the State.

72. *Chenopodium Botrys* L. Along the streams of canyons, Salt Lake County.

73. *Chenopodium Bonus-Henricus* L. In Ogden Canyon, Weber Co.

74. *Chenopodium murale* L. In Salt Lake County.

75. *Atriplex rosea* L. Tumbling Atriplex. One of the commonest weeds of waste places in the State, especially where the soil is more or less alkaline. Dr. Nelson described the western weed as a distinct species under the name of *Atriplex spatiosa*.

76. *Amaranthus graecizans* L. Tumbling Amaranth. Common in waste places throughout the State.

77. *Chelidonium majus* L. Sparingly escaping in Salt Lake City.

78. *Thlaspi arvense* L. Field Penny Cress or Mithridate Mustard. Reported from Logan, Cache Co.

79. *Camelina microcarpa* Andr. Small-fruited False Flax. Throughout the State.

80. *Isatis tinctoria* L. Dyer's Woad. Well established and common in various parts of Box-elder County.

81. *Malcomia africana* (Willd.) R. Br. A common weed around Manti, Nephi, Axtell, etc. In the vicinity of the reservoir south of Juab there are many acres already covered almost solidly with it. Naturally a weed of alkaline soils, it is likely to become one of the troublesome weeds of the State within a very short time.

82. *Galega officinalis* L. Goat's Rue. Collected at Logan, Utah, August 19, 1920, and sent to Dr. Rydberg, who determined it. The specimen is now at the New York Botanical Garden. The specimen collected was certainly an escape. How well it is established, however, I do not know.

83. *Medicago lupulina* L. Nonesuch. Well established in lawns and other grassy places throughout the State.

84. *Medicago officinalis* L. Alfalfa: Lucerne. Escaping from cultivation throughout the State.

85. *Onobrychis Onobrychis* (L.) Rydb. (*O. sativa* Lam.). Sandfoin. Escaping and well established in Rock Creek Canyon, near Provo, Utah Co.

86. *Tribulus terrestris* L. Bur-nut. Well established in Salt Lake City along railroad tracks, where it has probably come from California. The weed is giving a great deal of trouble to automobile tires in California, where the expressive name of "Puncture Vine" is given to it.

87. *Hibiscus Trionum* L. Bladder Ketmia. This plant was observed by me to be well established in cultivated fields at North Ogden, Weber County, and at Provo, Utah County, during the summer of 1919. Last summer I noticed it in cultivated fields at Ogden. None of the Floras give this plant for Utah.

88. *Daucus Carota* L. Carrot; Queen Anne's Lace. Along irrigation ditches in Salt Lake County. Well established.

89. *Cuscuta planiflora* Tenore. Alfalfa Dodder. Common and destructive in alfalfa fields throughout the State.

90. *Anchusa officinalis* L. (*A. arvensis* L.). Alkanet. Escaping and well established in Rock Creek Canyon, near Provo, Utah County.

91. *Cynoglossum officinale* L. Common Hound's Tongue. This weed, detested especially by sheep men, is thoroughly established in Logan Canyon and along the railroad tracks in several places north and south of Logan, especially at Mendon. It is also equally well established at Nephi, Juab County.

92. *Solanum villosum* Mill. Vigorous plants of this weed were observed in cultivated gardens near Lewiston, Cache Co., August 20, 1920. A specimen was sent to Dr. Rydberg for determination.

93. *Hyoscyamus niger* L. This plant has been reported from Kayville, Davis Co., as well established.

94. *Verbascum virgatum* With. Moth Mullein. Growing abundantly near Ensign Peak, above Salt Lake City.

95. *Veronica Tournefortii* C. C. Gmel. (*V. Buxbaumii* Tenore.) Thoroughly established in Salt Lake and Wasatch Counties.

96. *Veronica hederacifolia* L. Ivy-leaved Speedwell. Reported from Logan, Cache Co.

97. *Dipsacus sylvestris* Huds. Teasel. Thoroughly established on the sides of the ponds along the railroad tracks, etc., from Bountiful, Davis Co., north to Logan, Cache Co., and beyond.

98. *Maruta Cotula* (L.) DC. (*Anthemis Cotula* L.) Dog Fennel; Mayweed. Well established and increasing in Utah, Salt Lake and Beaver Counties, and probably in other parts of the State where it has been introduced.

99. *Sonchus arvensis* L. Field Sow Thistle. An abundant weed along the streets in the southern part of Salt Lake City.

100. *Tragopogon dubius* Scop. Yellow-flowered Salsify. Becoming fairly common at Salt Lake City, but abundant in Cache Co.

101. *Inula Helcnium* L. Elecampane. Sparingly escaping, but well established, at Provo, Utah Co., and Orangeville, Carbon Co.

102. *Onopordon Acanthium* L. Cotton Thistle; Scotch Thistle. Permanently established near Grantsville, Tooele Co., and at Salt Lake City.

EAST HIGH SCHOOL,  
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### SHORTER NOTES

THE J. ROBERTS LOWRIE HERBARIUM.\*—During August, 1920, the officials of The Pennsylvania State College received a letter from Mr. Roberts Lowrie, of Philadelphia, stating that it was the desire of the family to present the herbarium, prepared by his father, Mr. J. Roberts Lowrie, formerly of Warriorsmark, Pa., to the College. Acting on the suggestion contained in the letter, the writer, accompanied by Professor C. R. Orton, made a visit to the Lowrie residence in Warriorsmark to accept the herbarium on behalf of the College and to learn more of the botanical activities of its maker. On this and a subsequent visit to Warriorsmark, a village at the base of the Bald Eagle Ridge about twenty-five miles southwest of State College, we were most cordially received at the beautiful old homestead by Miss Sarah R. Lowrie.

\* A note presented to the Botany Seminar, The Pennsylvania State College, March 16, 1921.